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UNCLAS SECTION 01 OF 04 MONTERREY 000306

SENSITIVE SIPDIS

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E.O. 12958: N/A

TAGS: ECON EFIN EIND EINT EINV PGOV MX

SUBJECT: NUEVO LEON DEVELOPS A HIGH TECHNOLOGY SERVICE INDUSTRY; WORKING ON NEW PRODUCT INNOVATION

REF: A) 2007 MONTERREY 783 B) 2007 MEXICO 4451

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11. (SBU) Summary. The state of Nuevo Leon continues to pursue higher value added industries through a government led strategy, highlighted by the Research and Technological Innovation Park. The Research and Technological Innovation Park (PIIT for its initials in Spanish) has made substantial strides, with five completed buildings, and will include research centers operated by the government, universities, major companies, and smaller entrepreneurs. Nuevo Leon has had significant success attracting high technology outsourcing work, based on an ample supply of local engineers. It is less clear whether the Nuevo Leon strategy, focused on government planning and promotion, will succeed in its long term goal of developing a homegrown innovation sector. End Summary.

Nuevo Leon's plan to Promote High Technology Innovation

- 12. (SBU) Nuevo Leon Governor Jose Natividad Gonzalez Paras has a vision to move Nuevo Leon from manufacturing to a knowledge-based economy. Nuevo Leon's plans are government designed and led, initially focusing on bringing foreign investment and offshore technology work to Nuevo Leon. Nuevo Leon has also attempted to foster homegrown companies through business incubator and accelerator programs. In addition, Nuevo Leon is seeking to develop clusters with neighboring states, and has organized a conference on clusters for early July. Overall, Nuevo Leon hopes to leap frog to a technology industry through foreign investment and the resulting technology transfer. Meanwhile, Nuevo Leon has only made limited efforts on several fundamental issues, such as protection of intellectual property rights, venture capital financing, and rule of law. Nuevo Leon's strategy has delivered immediate dividends in outsourcing work and the landmark PIIT technology park. However, their hope to generate an innovation cluster is a long-term project, stretching well beyond the end of Governor Gonzalez's term in <u>1</u>2009.
- ¶3. (U) Nuevo Leon has identified several new strategic industries such as software, biotechnology and nanotechnology to complement old standbys like automotive and home appliances. The cornerstone of Nuevo Leon's plan is the Research and Technological Innovation Park (PIIT), which combines research efforts by the government, academics and industry. Nuevo Leon

features the PIIT prominently in its promotion brochures for foreign investors. After a slow start, the PIIT is beginning to match up to the hype, with five completed buildings, and has secured tenants for its entire area. Moreover, all of the PIIT buildings are projected (perhaps optimistically) to be completed by December 2008. There are further discussions to build a second technology park next to the PIIT. The PIIT will include state and federal government research facilities, in addition to research centers operated by three top local universities (including the prestigious Monterrey TEC) and the University of Texas at Austin, Texas A& M University and Arizona State. In addition, several large firms will have research facilities in PIIT, including Motorola, PepsiCo, the Indian software company Infosys, and local Mexican conglomerates such as Vitro, Xignux, and Sigma (a division of Alfa), and 42 small firms as part of a software cluster. The investigators in PIIT will work in areas such as software, biotechnology, nanotechnology, electrical design, food and logistics. The PIIT expects to employ 2,400 people with an investment of approximately \$85 million USD.

¶4. (SBU) One of Nuevo Leon's key comparative advantages is the availability of low cost engineers. According to Andres Franco, Nuevo Leon Under-Secretary for Foreign Investment and International Commerce, Nuevo Leon features 93 colleges with 150,000 students, 213 technical programs with 52,000 students, and currently graduates 5,000 engineers each year. The availability of low cost engineering talent has attracted companies such as Technip, which provides engineering services to American oil companies. When Technip found it difficult to hire petroleum engineers in Houston, they chose Monterrey over India as their backroom office due to the number of engineers and geographical proximity. Technip established its Monterrey office in 2008, and plans to expand from 29 to 120 employees. Rene Mathieu, local head of Technip, sends the new hires to the United States for six months of training. Kellogg, Brown and

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Root also provides engineering services from Monterrey to the Houston-based petroleum industry, following the same model as Technip. In another area, Alvatrix offers IT services (server maintenance) to U.S. based firms in Texas, and obtains cost competitiveness through its location in Monterrey. In general, the foreign companies appear pleased with the quality of Mexican engineers. Rockwell and Technip consider Mexican engineers at the same level as in the United States, although Siemens disagreed, commenting that the Mexican engineers were less productive.

(U) Monterrey TEC University has model business incubators and accelerators to encourage new business formation, including high technology companies. The business incubators (for new start-ups) and business accelerators (to expand existing small firms) provide coaching from business professors, networking with other entrepreneurs, and technology transfer from existing businesses. Monterrey TEC officials told Econoffs that the primary obstacle to new business formation remains access to financing, since the market for venture capital in Mexico is still limited (see reftel B). Monterrey TEC plans to establish 'investor clubs,' so that once the Monterrey Tec professor deems the companies to be ready, the entrepreneurs can present their business plans to a committee of potential investors, which could include some large Monterrey firms. Although the plan could work, so far Monterrey TEC has not yet established 'investor clubs,' nor is it clear how much the Mexican investors will pay for a minority share of a new start-up. Finally, Monterrey TEC and the PIIT cooperate in a 'soft landing' program to ease the placement of foreign companies in Nuevo Leon through incentives, office space, and assistance with new hires. In June Motorola established an office in Nuevo Leon under the soft landing program, and will have an office with 100 employees located in the PIIT developing software for transmitting information and video on demand.

SBU) Plans to protect intellectual property rights -- a key prerequisite for true innovation -- are still in the preliminary stages. Under an agreement with the state of Nuevo Leon, the University of Monterrey (UDEM) leads the project of protecting intellectual property rights at the PIIT. UDEM has three planned phases: 1) promotion of the culture of legality and an appreciation of the importance of intellectual property rights protection; 2) advising small and medium enterprises how to protect their trademarks and other intellectual property and 3) a center of legal studies to provide legal training on IPR issues. UDEM has primarily focused on stage one, and has hosted a series of conferences to emphasize the social utility of IPR protection. In 2007 UDEM began limited work on phase two, providing IPR advice to 14 small businesses in 2007, and depending on funding plans to counsel 28 additional firms in 12008. The Consulate is also actively promoting IPR protection through presentations and agreements with local governments. In general, there is local interest, but IPR protection in Nuevo Leon still has a long road to travel since it just starting to address the educational aspect.

Success Capturing Outsourced Technology Work

17. (U) Nuevo Leon has made significant strides attracting high technology work, primarily outsourcing technology jobs by foreign companies. A number of important technology firms have set up shop in Nuevo Leon in the last two years, including Indian software powerhouse Infosys (which will hire up to 1,300 software engineers), Whirlpool (400 engineers), Lenovo (750 employees) which will begin building personal computers in Nuevo Leon this summer for shipment throughout the Americas, and Accenture (1,000 employees) which will provide technological consulting services to the Americas. Econoff toured Whirlpool's impressive state of the art facility, and learned that Whirlpool plans to increase its technology staff from 380 now to 480 by 12012. Whirlpool exports one billion dollars of home appliance goods each year. Whirlpool hires from local Mexican universities, and six of their current employees have doctorates and 50 to 60 have master's degrees in technical fields such as mechanical, electrical and chemical engineering. Whirlpool has worked with the local universities to develop two year seminars that produce 10 highly qualified engineers per year. The

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Whirlpool technology center has three tasks, developing new products (40%), improving existing products (40%) and quality control (20%). As an example of its work on new products, Whirlpool developed a new icemaker in Monterrey.

18. (SBU) Nuevo Leon has also had substantial success with homegrown technology consulting providers. Local powerhouse Softtek has grown since its establishment in 1982 to provide technology services in over 20 countries and now employs 5,000 professionals. Moreover, Neoris, born as the technology arm of Monterrey giant Cemex, also provides top quality technology services rather than original research. A former Conoff with prior experience in the software field interviewed numerous Softtek and Neoris engineers for work visas, and found that they were performing consulting services or putting the finishing touches on software projects conceived elsewhere (see reftel A). Similarly, homegrown Dextra with 170 engineers provides 'near shore' technology consulting and applied solutions to clients such as Texas Instruments and Nokia, but does not innovate original software products.

- $\P 9.$  (SBU) Despite all the talk of cutting edge software design, there are indications that PIIT has initially focused on technology transfer and applied research. Econoff met with Ernesto Perez, head of Texas A& M's research facility at the PIIT. Perez described his task as 'applied research' (which he preferred to consulting) and said that Texas A&M plans to transfer technology and research developed at Texas A&M to Mexican companies. For example, Texas A&M has a number of experts in materials, and they could bring expertise and solutions to Mexican firms. Perez also works with Center of Engineering and Industrial Design (Cidesi), the first operational research facility built in the PIIT, and operated in conjunction with the national Council of Science and Technology (Conacyt). According to press materials, Cidesi will focus on technology transfer for the automotive, home appliance, steel, energy and food sectors, since they are the most developed in Nuevo Leon. Perez commented that Cidesi's strength is implementing turn key solutions, or transferring technology developed elsewhere to Mexican firms. Cidesi plans to move into pure research, and has done so in other Mexican states. However, in the PIIT, Cidesi has not yet taken the preliminary step of reaching an agreement with Texas A&M on profit sharing for potential patents.
- 110. (SBU) Overall, the PIIT has advanced Nuevo Leon's technological expertise, although the emphasis is on advanced manufacturing rather than software design. Carlos Mortera, general director of the Advanced Manufacturing Technology, a trade association of 350 U.S. manufacturing companies, thought that although some cutting edge research exists, Nuevo Leon's focus has been to integrate and designs systems for advance manufacturing. Mortera agreed that Nuevo Leon has a good pool of highly educated engineers who can capably handle outsourced technology work, but he was skeptical of the high goals for the PIIT, and he thought that Nuevo Leon was correctly focusing on higher manufacturing and not software.
- 111. (SBU) Comment. There is no doubt that Nuevo Leon's strategy has been successful capturing attractive foreign investment to establish a high technology consulting and service outsourcing industry. The high technology sector will also strengthen the higher value added manufacturing in Nuevo Leon by helping companies such as Whirlpool develop new products. However, it is not clear to what extent the foreign companies will transfer technological know-how to Nuevo Leon, or if Nuevo Leon will just be a low cost engineering center. The big question remains if Nuevo Leon can move into true innovation of developing and patenting its own products, admittedly a long term goal. The PIIT has been a signature project of Nuevo Leon Governor Gonzalez Paras, and it is impossible to know if the next Governor, who will take office in late 2009, will extend his full support. Nuevo Leon also needs more focus on fundamental issues such as the financing for start-up companies

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and reliable IPR protection to establish the foundation for true innovation. End comment. WILLIAMSON